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David A Eckhardt

to:

Kevin Lynch

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From: David A Eckhardt <daeckhar@usgs.gov>

To: Kevin Lynch/R2/USEPA/US@EPA

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Hi Kevin,

I've heard from various sources at EPA that you are retiring Friday. That is certainly one way to celebrate the end of a fiscal year!

I want to send my congratulations and hearty wishes for a very enjoyable life beyond federal employment. I myself have more than 36 years with USGS, starting in 1974, and I also look forward to that day.

I want to thank you for supporting USGS involvement at several EPA sites. I have personally found it very satisfying to help make a difference, and I have much respect for the EPA colleagues that I have worked with. You will certainly be missed.

Just for the record, a brief review:

We first met when discussing the open borehole flows in wells at the Cayuga site. The inability of ERT to get zone-specific samples or for USGS to get valid water levels was a real problem. We solved that completely and quite successfully with implementation of the Westbay multilevel packers. Flutes or any other system would have failed. You made the right decision to do it.

GE has made several claims through the years, and each has fallen away because of the Federal program (and their own well drilling programs that were intended to support their erroneous positions, with just the opposite results). So far:

1. They said there was no southward flow at the site; disproved in 2004 by Westbay data and their deep D3 wells.
2. They said no contamination could reach the D3 zone; disproved in 2004 by their deep well drilling.
3. They said there was no structural deformity to the bedrock at the site; disproved by many well cores and

borehole logs.

4. They said the off-site deep contaminant plume from Powerex was 99.9% remediated through natural attenuation within 500 ft of the source; disproved in 2009 by samples from wells sited and drilled through the Willowstick survey.

5. They said that groundwater flow is uniform (just this morning in fact), whereas wells show tremendous variation in D3 transmissivity (from 30-ft open caverns to tight non-transmissive wells within a few hundred feet of each other); VOC variability of several orders of magnitude within short distances also invalidate the uniform flow theory. Our assertion that off-site flow is channelized in several distinct open solution features, where it is relatively unattenuated, is well documented.

You asked when you toured the site in March 2009 about the chances of Willowstick success at the Site. They just completed the second survey, but results of the first survey were quite conclusive in my view (GE contests that view). Five of seven wells sited by Willowstick results hit contaminated water, and several were among the highest concentrations found to date off site of Powerex (the two clean wells were off to the west where we all knew nothing would be found). Willowstick was a success, and we look forward to the new wells sited through the second survey to the south.

The meetings with GE will not be the same without you and George. Your successor will have a large gap to fill.
Best wishes!

—Dave

David A.V. Eckhardt	tel: (607)266-0217 x3018
U.S. Geological Survey	cell: (607)227-4182
30 Brown Road	fax: (607)266-0521
Ithaca, NY 14850-1573	daeckhar@usgs.gov, dae5@cornell.edu